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19 March 1957

USAF review(s) completed.

MEMORANDUM TO THE FILE - []

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FROM: []

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SUBJECT: Trip of 5 March to 8 March 1957 to [] to
Obtain Data Pertaining to Electronic Support and Maintenance
Requirements

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1. The following personnel are working with this project []

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AMD
OC-E
C-E
OC-E
OC-E

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Major E. Hall, USAF (Elint)
Major Shuane, USAF (Navigation)
Major J. Beard, USAF (Project Officer)
Lt. Kaplan, USAF (ECM)
Lt. Bryant, USAF (ECM)
Lt. Stanley, USAF (Navigation)
Lt. Losey, USAF (Navigation)

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2. The purposes of the trip were to determine

- A. Which types of shop equipment []
would be useful to this project;
- B. To obtain suggestions from technical repre-
sentatives relative to required floor and
bench space, power requirements and test
equipment;
- C. To obtain suggestions from OC-E personnel
relative to bench space and test equipment;
- D. To obtain a list of all electronic equip-
ment within []

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3. Special outlet boxes now installed [] were studied, and drawings were obtained. These boxes are not Air Force standard. With some modifications these boxes can be used on this project; the modifications would include the substitution of different type receptacles, and the addition of ground lugs. These outlet boxes provide access to A-C60 cycles, A-C 400 cycles, and D-C. They are necessary to test bench installations.

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4. If possible, all test equipment should be purchased complete with case, shock-mounts, all adapters and cables. U.S.A.F. test equipment meets this requirement.

5. Air lines should be provided with water traps and drains.

6. A transistor test set is needed for the [] equipment. A crystal diode test set that will test the IN53 (coaxial) and other crystal diodes is also required. The IN53 is now used in the [] equipment and is tested by measurement of noise; if unsatisfactory, it is replaced. The TS390A-3 tester will handle crystal diodes up to the IN31 but will not test the IN53.

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7. OC-E personnel suggest the purchase of Hickok 639 Tube Tester instead of the No. 533 now used by OC-E. The No. 639 is more versatile.

8. OC-E personnel request the purchase of an Ampex Head Demagnetizer No. 704; a Degausser (Cinema Eng. Co. Type 9205 now used); and the equipment must be calibrated by a procedure requiring the following Hewlett Packard equipment:

200C Audio Oscillator
400C Vacuum Tube VM
300A Wave Analyzer

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9. The [] technical representatives provided the following information:

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A. [] has provided test equipment and flyaway kit as part of contract; however a check must be made that a similar set of equipment will be available at overseas locations-this will be checked through M.

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[] TSS

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B. The following items of equipment would be useful but have not been provided []

4 drawer safe with 3-way lock

storage cabinets and a desk

audio oscillator similar to TS382D/U

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9.

brush recorder, 2 channel

stroboscope for servo testing (this stroboscope would also be useful with the Ampex eqpt.)

function generator (1 to 20 cps; square, sawtooth and sine waves for servo testing)

- C. Forty feet of test bench space, arranged in a U-configuration, are now in use and are sufficient for maintaining one set of equipment
- D. A normal size window is necessary to provide for radiating and picking up test landmarks at a distance of two or three miles
- E. Flight line testing of antennas requires a hydraulic rig providing 3000 psi--this should be available at any USAF field
- F. Power requirements:

28 volts D-C:-100 watts

208/120 volts, 400 cycles, 3 phase:-
1700 VA, 9070 P.F.

120 volts, 60 cycles, 1 phase:-test eqpt.

- G. Partial list of test eqpt. already supplied by

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- 1 - Tektronix Oscilloscope, Type 531
- 1 - H.P. Pulse Generator, Model 212A
- 1 - H.P. Vacuum Tube VM, Model 410B
- 1 - H.P. Microwave Power Meter, Model 430C
- 1 - Gertsch Peak Reading VM, VM-1
- 1 - Hickok Tube Tester, Model 600A
- 1 - Gertsch Peak Reading VM, VM-1

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9.

1 - Hickok Tube Tester, Model 600A

1 - Bruno Multimeter, Model 70

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1 - Noise Figure Test Set (Special)

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1 - Recorder Test Set (Special)

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1 - T/R Crystal Test Meter (Special)

1 - VSWR Amplifier (Special)

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10. RADAN SYSTEM - Model PC210-AN/APN 102
(future)

A. Eight feet of test bench space is satisfactory for the airborne equipment; plus additional space, preferably a cart, for test equipment

B. Power requirements:

28 Volts D-C:-less than 1 ampere

120 Volts, 400 cycles, 1 phase:-500VA

120 Volts, 60 cycles, 1 phase:-test eqpt.

Tolerances for the 400 cycle equipment are 380 to 420 cycles, 108 to 121 volts.

C. Suggested test equipment:

1 - TS147B/UP Radar Power and Sensitivity Meter

1 - TS382D Audio Oscillator

1 - TS148 Spectrum Analyzer, or UPM33

1 - USM25 Synchroscope, or TS239/UP

1 - TS268/U Crystal Tester

1 - PEM6 Multimeter, or Simpson 260

1 - UPM 36 Signal Generator (GPL)

1 VTVM, HP410B or General Radio 1800A

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10.

1 - ME-6/U VTVM (Ballentine 300)

1 - Preset Counter, Berkley EPUT Meter No. 5426-6
or Berkley General Purpose Counter No. 410

D. The following equipment is needed for bench test work
and could be purchased from GPL only:

1 - Bench Harness and Junction Box (ties system
together for bench operation)

1 - Frequency Tracker Test Adapter (allows audio
signal to be fed into unit to test power supply
voltage, sensibility, ground speed and drift
servas, etc.

1 - A-R-T Test Adapter (allows test reading of AGC,
magnetron current, AFC)

1 - A-R-T Test Stand (allows antennas to be operated
for a bench test)

1 - Extension Cable Set

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11. In order to obtain a copy of Form 263 (list of airborne equipment), a
letter must be sent from AMSD to .

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12. As a part of the investigation of test benches, an 82 page Illustrated
Parts Breakdown of the MG-10 Fine Control System Test Stand was obtained from the

13. OC-E personnel suggested that an AN/USM-34 Test Tool Set be finished
overseas. OC-E warehouse stocks this item @ \$1500.



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